

# Carbon Footprint Dashboard: mzkjinkwuj

Total Product Carbon Footprint

**55.97 kg CO<sub>2</sub>e**

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**55.97 kg CO2e**

Carbon Intensity (per unit)

**55.97 kg CO2e/unit**

Top Material Hotspot

**Aluminum Casing (6.00 kg CO2e)**

Primary Emission Scope

**Scope 3 (51.32 kg CO2e)**

# Emissions Breakdown

## Lifecycle Stage Contributions

Use Phase (Energy Consumption)	31.03 kg CO2e (53.79%)
Raw Material Acquisition	11.50 kg CO2e (19.93%)
Transportation	10.51 kg CO2e (18.22%)
Manufacturing (Purchased Electricity)	4.65 kg CO2e (8.06%)
End-of-Life Treatment (Reduction)	-1.72 kg CO2e

## Material Carbon Impact

Aluminum Casing	6.00 kg CO2e (52.17%)
Lithium-ion Battery	2.40 kg CO2e (20.87%)
Plastic Enclosure	1.60 kg CO2e (13.91%)
Circuit Board	1.50 kg CO2e (13.04%)

## Highlights: Key Carbon Hotspots

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- **Use Phase Energy Consumption (31.03 kg CO<sub>2</sub>e):** The most significant contributor over the product's lifespan, indicating a critical need for energy-efficient design.
- **Raw Material Acquisition (11.50 kg CO<sub>2</sub>e):** A substantial portion due to energy-intensive materials like aluminum, plastics, and electronics.
- **Last-Mile Delivery (10.00 kg CO<sub>2</sub>e):** Notably high emissions from the final leg of product distribution, pointing to logistics optimization opportunities.

## Action Plan: Recommendations for Reduction

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- **Material Optimization:** Explore lightweighting, increased recycled content, or lower-impact alternative materials.
- **Energy Efficiency in Use:** Design products for minimal energy consumption during operation and educate users on best practices.
- **Renewable Energy Sourcing:** Enhance the adoption of renewable energy in manufacturing processes through on-site generation or green energy purchases.
- **Logistics Optimization:** Improve transport routes, consider less carbon-intensive modes (e.g., rail/sea), and maximize vehicle utilization.
- **Circular Economy Expansion:** Strengthen take-back programs, and further develop initiatives for product refurbishment, reuse, and high-value recycling.